



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/801,427	03/16/2004	Zhicheng Tang	TI-36982	2050

23494	7590	08/24/2007
TEXAS INSTRUMENTS INCORPORATED		
P O BOX 655474, M/S 3999		
DALLAS, TX 75265		

EXAMINER	
OVEISSI, DAVID M	

ART UNIT	PAPER NUMBER
2609	

NOTIFICATION DATE	DELIVERY MODE
08/24/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

uspto@ti.com
uspto@demail.itg.ti.com

Office Action Summary

Application No.

10/801,427

Applicant(s)

TANG ET AL.

Examiner

David Oveissi

Art Unit

2609

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-15 and 18-32 is/are rejected.
- 7) ☐ Claim(s) 9-11, 16-17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on March 16 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 12-14, and 18-32 are rejected under 35 U.S.C. 102 (b) as being anticipated by **Agarwal (US 6,963,570 B1)**.

For claims 1, 21, and 27 Agarwal teaches a communication method/system/computer program, based on a communications standard that defines a cell format with a standard header of a standard length **M** (see Fig.1A & B unit 1110 "**5 OCTET HEADER**"), for communicating cells from a sender via a communications medium to a receiver, the method comprising: forming an abbreviated header of length **m<M**; and sending a cell, including the abbreviated header, over the communications medium (see abstract "**ATM cell**" and "**compressing header**" and Fig. 2A "for transmitting and receiving ends").

For claim 2 Agarwal teaches the method, wherein: the communications standard is asynchronous transfer mode (ATM); and **M=5** octets (see Fig. 1 A & B unit 1110 "**5 OCTET HEADER**").

For claims 3, 22, and 28 Agarwal teaches the method/system/computer program, wherein: $m=2$ octets (see Fig.3 **"FRAME HEADER = 2 OCTETS"**).

For claim 4 Agarwal teaches the method, further comprising: receiving the cell that was sent over the communications medium; and unpacking information from the abbreviated header of length m (See Fig. 7 **"HEADER DECOMPRESS"**).

For claims 5 – 6, and 19-20 Agarwal teaches the method, further comprising: using the unpacked information from the abbreviated header of length m so as to form a standard header of the standard length M ; and forming a standard cell including the standard header of the standard length M . The method, further comprising: sending the standard cell of the standard length M , further downstream from the receiver (see abstract and Fig. 8B flowchart and paragraph 15 lines 15-20).

For claims 7, 14, 23, 25, 29, and 31 Agarwal teaches a method/system/computer program, wherein the step of forming an abbreviated header of length $m < M$ includes: a) forming, within the abbreviated header, a virtual channel identifier (**VCID**) field that has a VCID field length $V < 16$ bits sufficient to specify a number of virtual channels encountered in a given communications scenario (see column 5 lines 29-32).

For claims 12, 24, and 30 a method/system of forming an abbreviated header of length $m < M$ for incorporation into a cell to be communicated from a sender via a communications medium to a receiver in accordance with a communications standard that defines a standard header of length M , the method comprising: collecting information required for fields of the abbreviated header; inserting the information into the abbreviated header of length m ; and communicating a cell including the abbreviated

Art Unit: 2609

header from the sender to the receiver substantially in accordance with the communications standard (see Fig. 2A "for transmitter and receiver ends" and Fig 6B flowchart).

For claim 13 the method, wherein the collecting step includes: reading some of the information from a pre-existing standard header of the standard length M (see Fig. 6B 1602 unit "SEPARATE HEADER AND PAYLOAD").

For claims 18, 26, and 32 a communication method/system, based on a communications standard that defines a cell format with a standard header of a standard length M , involving communicating cells including an abbreviated header of length $m < M$ from a sender via a communications medium to a receiver, the method comprising: receiving, from the communications medium, a cell including the abbreviated header of length $m < M$; and unpacking information from the abbreviated header (see column 17 lines 33-36).

Claim Rejections - 35 USC § 103

2. This application currently names joint inventors. In considering patentability of claims under 35 U.S.C. 103(a), examiner presumes that subject matter of various claims was commonly owned at time any inventions covered herein were made absent any evidence to contrary. Applicant is advised of obligation under 37 CFR 1.56 to point out inventor and invention dates of each claim that was not commonly owned at time a later invention was made in order for examiner to consider applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Art Unit: 2609

3. factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining scope and contents of prior art.
2. Ascertaining differences between prior art and claims at issue.
3. Resolving level of ordinary skill in pertinent art.
4. Considering objective evidence present in application indicating obviousness or nonobviousness.

4. Following is a quotation of 35 U.S.C. 103(a) which forms basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though invention is not identically disclosed or described as set forth in section 102 of this title, if differences between subject matter sought to be patented and prior art are such that subject matter as a whole would have been obvious at time invention was made to a person having ordinary skill in art to which said subject matter pertains. Patentability shall not be negated by manner in which invention was made.

Claims 8, 11, and 15 are reject under 35 U.S.C. 103(a) as being unpatentable over **Agarwal** in view of **Bornemisza et al. (US 7,154,895 B1)** and **Turner et al. (US 7,072,296 B2)**.

For claims 8 and 15 Agarwal teaches all the subject matter of the claimed invention with exception of a system/apparatus/method, wherein the given communications scenario involves communicating the cells in a digital subscriber line (**DSL**) network; and $V \leq 5$ bits. However, **Bornemisza** from the same field of endeavor teaches a system/apparatus/method for ATM header compression for **DSL** links (see abstract) except teaching $V \leq 5$ bits limitation specifically. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use teaching of **Bornemisza** in the ATM compression for **DSL** in the method and method for adaptive loss-less compression of cell/packet headers. This is possible because of the adaptive

Art Unit: 2609

nature of **Agarwal** ATM compression method allows this combination to be possible.

The motivation for this combination is to make the compression method suitable for DSL, which has bandwidth limitation specially for downloading, or uploading programs that need substantial amount of bandwidth. Neither **Agarwal** nor **Bornemisza** teach V ≤ 5 limitation. However, **Turner** from the same field of endeavor teaches this limitation (see paragraph 22 lines 18-22). In addition, **Turner** explains the use of ATM header reduction in **HDSL** (see Paragraph 2 line 61), which is a variation of DSL. Thus, it would have been obvious to the person of ordinary skill in the art at the time of the invention to use **5-bit VCI** field of ATM header result of **Turner** compressed header in the method and apparatus for adaptive loss-less compression of cell/packet headers of **Agarwal**. In order to do this one can extract some bits of the VCI field to reduce the header as **Turner** explains it-as matter of fact the VCI can be reduced to two bits as it has been disclosed by **Turner** (see paragraph 22 lines 18-22). The motivation for this combination is further compression of ATM header that result in more efficient and effective use of bandwidth.

Allowable subject Matter

5. **Claims 9-11, 16-17** are objected to as being dependent upon a rejected base claim, but would be allowable if written in dependent form including all of the limitations of the base claim any intervening claims.

Art Unit: 2609

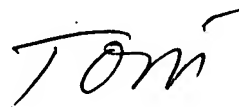
Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure **Chen et al. (6,111,871), Le Dantec (US 6,876,814 B1), Sakaguchi (US 6,289,020 B1), and Ayanoglu (5,717,689).**

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Oveissi whose telephone number is (571) 270-3127. The examiner can normally be reached on Monday to Friday 8:00 AM to 5:00 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dang Ton can be reached on (571) 272-3171. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



D.O

DANG T. TON
SUPERVISORY PATENT EXAMINER